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EXAMINER
SHRADER, LAWRENCE J

ART UNIT	PAPER NUMBER
2124	

DATE MAILED: 09/10/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

	Application No.	Applicant(s)
Office Action Summary	09/775,837	GOTO ET AL.
	Examiner	Art Unit	
	Lawrence Shrader	2124	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on _04 June 2004_.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) _1-36_ is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) _1-36_ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☒ All b)☐ Some * c)☐ None of:

      1.☒ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
    Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____.

DETAILED ACTION

1.   This office action is in response to the amendment filed on 6/04/2004 by the Applicant.

2.   The Applicants' arguments set forth in the amendment filed on 6/04/2004 have been fully considered, but are moot in view of the new grounds of rejection necessitated by the amendments to the claims. Pending claims 1 – 36 remain rejected.

Claim Rejections - 35 USC § 103

3.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4.   Claims 1 – 6; 7, 11; 15 – 17; 20, 21, 23 – 26; 27, 28; and 33 – 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over McGuire et al., U.S. Patent 6,493,871 (hereinafter referred to as McGuire) in view of Dove, U.S. Patent 6,385,175.

A control program is interpreted as a software program or package.

In regard to claim 1:

McGuire discloses a system for updating a software program comprising:

a stored control program unit;

McGuire discloses a client that stores and executes the software programs (e.g., see

Figure 2).

> *a maintenance management server coupled with the stored control program unit via a
> public network; wherein when the maintenance management server sends an instruction
> to update the control program to the stored control program unit, the maintenance
> management server sends authentication data to the stored control program unit through
> the public network; and*

McGuire discloses a server coupled with a client that stores and executes the software

package (the program unit) via a network (e.g., see Figure 2), which may be the Internet (a

public network, column 7, lines 21 – 23). The update server sends a setup program (instructions

to update) to the program unit, which determines which files need to be updated (column 7, lines

228 – 56) with authentication (column 8, lines 15 – 19).

> *a control program upload server coupled with the stored control program unit; wherein
> the control program upload server, after receiving and validating the authentication data
> via Internet to verify authorized access by the stored control program unit, sends a
> control program update for processing by the stored control program unit.*

McGuire discloses the download server (see Figure 2) then uploading to the client (stored

program unit) the appropriate updates (column 7, lines 49 – 67) via Internet (column 7, lines 20 –

30. "Appropriate updates" in the broadest reasonable interpretation in view of specification

means authentication data, but does not specifically disclose verification of access by the control

program unit. However, Dove discloses an agent program (a stored control program unit) that is

submitted to an authorization check (column 3, lines 58 – 61) before being allowed an update

function by the agent. Therefore, it would have been obvious to one skilled in the art at the time

the invention was made to combine the program update as taught by McGuire with the

security/authorization check of an update agent (a control program unit) as taught by Dove,

because the security check of information over the Internet is desirable to ensure that a the

control unit is properly validated to have access to the requested information as taught by Dove

at column 3, lines 61 – 65.

In regard to claim 2, incorporating the rejection of claim 1:

> *"...wherein the control program upload server maintains a key history file comprising a plurality of issued authentication keys, wherein said authentication data comprises one key of said plurality of issued authentication keys."*

McGuire discloses the use of Microsoft Corporation's Authenticode security system for

authenticating software by maintaining authentication data (column 8, lines 15 – 19).

In regard to claim 3, incorporating the rejection of claim 1:

> *"...wherein said stored control program unit comprises:*
> *a maintenance communication module for receiving said instruction and said authentication data from said maintenance management server,"*

McGuire discloses a communication module to receive instructions and authentication

data from the update (management) server (e.g., see Figures 2 and 3).

> *"a device download controller module for receiving the control program transferred from said control program upload server,"*

McGuire discloses a setup program (e.g., Figure 2, ref no. 82), which receives the

program received from the upload server (Figure 2, ref no. 70).

> *"and a program update module for storing said control program received by said device download controller module to a memory."*

McGuire discloses that the files are downloaded to update existing files (column 7, lines

49 – 56).

In regard to claim 4, incorporating the rejection of claim 1.

> "...*wherein said stored control program unit, comprises:*
>
> *a maintenance communication module for receiving said instruction and said authentication data from said maintenance management server, and a program file for receiving the control program transferred from said control program upload server.*"

McGuire discloses a setup program (e.g., Figure 2, ref no. 82), which receives the

program received from the upload server (Figure 2, ref no. 70), and also discloses that files are

downloaded by the client in order to update existing files (column 7, lines 49 – 56).

In regard to claim 5, incorporating the rejection of claim 1:

> "...*a repeater unit, comprising one gate coupled with said stored control program unit through a Local Area Network, and another gate coupled with the Internet, wherein when commanded by said stored control program unit, said repeater unit transfers said control program from said control program upload server to said repeater unit.*"

The system disclosed by McGuire is capable of operating on a variety of network types,

for example a WAN or the Internet (column7, lines 21 – 23; see also Figure 2). It is well known

in the art that gates and repeaters are integrally inherent to those types of network systems in

order to transfer programs from one device to another connected by said network.

In regard to claim 6, incorporating the rejection of claim 5:

> "...*wherein said repeater unit only transfers said control program from said control program upload server, when said control program is not stored in said repeater unit.*"

The system disclosed by McGuire is capable of operating on a variety of network types,

for example a WAN or the Internet (column7, lines 21 – 23; see also Figure 2). It is well known

in the art that repeaters are integrally inherent to those types of network systems in order to

transfer programs by passing through data from one device to another connected by said

network. The pass through function implies that the data must come from the upload server.

In regard to claim 7:

> *"sending an update command from a maintenance server at a third location to said computer system via a first communications network, said update command comprising at least one instruction for said computer system to get said update control program from said update server;"*

McGuire discloses an update server (maintenance server) at a third location via a

communications network, the maintenance server issuing a setup package with an update

command to get an update program (see Figure; column 7, lines 24 – 56).

> *"sending authentication data from said maintenance server to said computer system;"*

> *"using said authentication data to establish a connection between said computer system and said update server;"*

McGuire discloses the update (see Figure 2) then uploading to the client (stored program

unit) the appropriate updates (column 7, lines 49 – 67) via Internet (column 7, lines 20 – 30.

"Appropriate updates" in the broadest reasonable interpretation in view of specification means

authentication data, but does not specifically disclose authentication of the control program unit.

However, Dove discloses an agent program (a stored control program unit) that is submitted to

an authorization check (column 3, lines 58 – 61) before being allowed a connection to conduct

an update function by the agent. Therefore, it would have been obvious to one skilled in the art

at the time the invention was made to combine the program update as taught by McGuire with

the security/authorization check of an update agent (a control program unit) as taught by Dove,

because the security check of information over the Internet is desirable to ensure that a the

control unit is properly validated to have access to the requested information as taught by Dove

at column 3, lines 61 – 65.

> *"executing said command by said computer system;"*

Client computer executes the command (see Figures 2 and 3; column 7, lines 24 – 56).

> *"receiving said update control program by said computer system from said update server via a second communications network, including the Internet;"*

The update program comes from an update server via a network that may include the

Internet (column 7, lines 21 – 23).

> *"updating said control program with said update control program."*

See column 7, lines 49 – 56 of McGuire for updating of the software program.

In regard to claim 11, incorporating the rejection of claim 7:

> *"...sending authentication data from said maintenance server to said computer system; and using said authentication data to establish a connection between said computer system and said update server."*

McGuire discloses the use of Microsoft Corporation's Authenticode security system for

authenticating software by maintaining authentication data (column 8, lines 15 – 19).

In regard to claim 15:

> *A storage device maintenance method for updating a control program stored by a device controller of a storage system, said method comprising:*

>> *receiving information, comprising authentication data, by said storage system related to updating said control program via a first communication connection;*

McGuire discloses a server coupled with a client that stores and executes the software

package (the program unit) via a network (e.g., see Figure 2), which may be the Internet (a

public network, column 7, lines 21 – 23). The update server sends a setup program (instructions

to update) to the program unit, which determines which files need to be updated (column 7, lines

228 – 56) with authentication (column 8, lines 15 – 19).

> *sending a request, comprising said authentication data, for an updated control program to an upload server via a second communication connection, comprising an Internet connection;*

McGuire discloses a request sent to the upload server via a second communication

connection (e.g., see Figure 2, ref No. 90).

> *receiving said updated control program from said upload server via said second communication connection, after the authentication data is validated to verify authorization to receive said updated control program; and*

McGuire discloses receipt of updated files from the upload server via the second

communication connection (e.g., see Figure 2, ref No. 96), but does not specifically disclose

authorization of access by the control program unit. However, Dove discloses an agent program

(a stored control program unit) that is submitted to an authorization check (column 3, lines 58 –

61) before being allowed an update function by the agent. Therefore, it would have been

obvious to one skilled in the art at the time the invention was made to combine the program

update as taught by McGuire with the security/authorization check of an update agent (a control

program unit) as taught by Dove, because the security check of information over the Internet is

desirable to ensure that a the control unit is properly validated to have access to the requested

information as taught by Dove at column 3, lines 61 – 65.

> *using said updated control program to update said control program.*

McGuire discloses the updating of the software program using the updated software (column 4, lines 33 – 37).

In regard to claim 16, incorporating the rejection of claim 15:

> "...wherein said authentication data comprises upload server password and login identifier."

McGuire discloses the use of Microsoft Corporation's Authenticode security system for authenticating software by maintaining authentication data (column 8, lines 15 – 19).

In regard to claim 17, incorporating the rejection of claim 15:

> "...wherein said request further comprises control program version information."

McGuire discloses that version information is considered in the software updating (column 4, lines 21 – 27).

In regard to claim 20:

> A maintenance system for updating a control program of a device controller, said control program stored at a computer center serviced by said maintenance center, said system comprising:
>> a storage system for storing an authentication key for accessing a development center, comprising an upload server, and a file location having a location of an updated control program on said upload server, wherein said authentication key and said file location are received from said upload server;

McGuire discloses a storage system having authentication keys (Authenticode system, column 8, lines 10 – 19), an upload server (e.g., Figure 2, ref. no. 70) with updated software programs (e.g., Figure 2, ref. no. 92).

> *a processor for sending information, comprising an instruction, said file location and said authentication key, to said computer center a via public network, said instruction requesting an updated control program from said upload server which is configured to send said updated control program after validating the authentication key to verify authorized access to said updated control program;*

McGuire discloses a server coupled with a client that stores and executes the software

package (the program unit) via a network (e.g., see Figure 2), which may be the Internet (a

public network, column 7, lines 21 – 23). The update server sends a setup program (instructions

to update) to the program unit, which determines which files need to be updated (column 7, lines

228 – 56) with authentication (column 8, lines 15 – 19), but does not specifically disclose

verification of access by the control program unit. However, Dove discloses an agent program (a

stored control program unit) that is submitted to an authorization check (column 3, lines 58 – 61)

before being allowed an update function by the agent. Therefore, it would have been obvious to

one skilled in the art at the time the invention was made to combine the program update as taught

by McGuire with the security/authorization check of an update agent (a control program unit) as

taught by Dove, because the security check of information over the Internet is desirable to ensure

that a the control unit is properly validated to have access to the requested information as taught

by Dove at column 3, lines 61 – 65.

> *an update feedback module for receiving a result of executing said instruction by said computer center.*

McGuire discloses a setup program in the client that receives the result (a set-up package)

of executing the instruction to update (e.g., Figure 3; column 4, lines 13 – 37).

In regard to claim 21, incorporating the rejection of claim 20:

> *"...an input module for receiving a user request, comprising, said instruction."*

The user requests an update with an instruction to the update server (e.g., see Figure 12).

In regard to claim 23, incorporating the rejection of claim 20:

> *"...wherein said result is displayed on a display screen, said result comprising an update result."*

McGuire discloses the result of the update request displayed for the user's consent before installation (column 8, lines 31 – 34).

In regard to claim 24, incorporating the rejection of claim 20:

> *"...wherein said result is further sent to a customer management center."*

McGuire discloses the result of the update request displayed for the user's consent before installation (column 8, lines 31 – 34).

In regard to claim 25, incorporating the rejection of claim 24:

> *"...wherein said result is sent from said customer management center to a user."*

McGuire discloses the result of the update request displayed for the user's consent before installation (column 8, lines 31 – 34).

In regard to claim 26, incorporating the rejection of claim 25:

> *"...wherein said result is displayed real-time to said user."*

McGuire discloses the result of the update request displayed for the user's consent in real-time before installation (column 8, lines 31 – 34).

In regard to claim 27 (a computer readable medium for storing code for updating a control program), it is rejected for the same corresponding reasons put forth in the rejection of claim 15 (a maintenance method for updating a control program).

In regard to claim 28 (a computer readable medium for storing code for updating a control program), incorporating the rejection of claim 27, it is rejected for the same corresponding reasons put forth in the rejection of claim 15 (a maintenance method for updating a control program).

In regard to claim 33 (a system for updating a control program), it is rejected for the same corresponding reasons put forth in the rejection of claim 15 (a maintenance method for updating a control program).

In regard to claim 34 (maintenance system for updating a control program), it is rejected for the same corresponding reasons put forth in the rejection of claim 15 (a maintenance method for updating a control program).

In regard to claim 35 (a system for updating a control program), it is rejected for the same corresponding reasons put forth in the rejection of claim 15 (a maintenance method for updating a control program).

In regard to claim 36 (a computer-readable data transmission medium containing a data structure for sending information), it is rejected for the same corresponding reasons put forth in the rejection of claim 1 (a system for updating a control program).

5.   Claims 8 – 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over McGuire et

al., U.S. Patent 6,493,871 in view of Dove, U.S. Patent 6,385,175 as applied to claim 7 above,

and further in view of Hodges, U.S. Patent 6,636,940.

In regard to claim 8, incorporating the rejection of claim 7:

"...wherein said control program is a control program of a device controller."

McGuire discloses an update program loaded from an update server, but neither McGuire

nor Dove discloses that the software program is a device controller. However, Hodges discloses

a device control program that is a disk drive control program (column 3, lines 26 – 31).

Therefore, it would have been obvious to one skilled in that art at the time the invention was

made to combine the program updating as taught by McGuire with the installed disk controller

software that is taught by Hodges, because the Hodges teaches that the control software may be

loaded from a memory media (column 3, lines 29 – 31), which indicates that the program is

downloadable from other sources providing the means to update the control program when

desired.

In regard to claim 9, incorporating the rejection of claim 7:

"...wherein said control program is a control program of a disk controller."

McGuire discloses an update program loaded from an update server, but neither McGuire

nor Dove discloses that the software program is a device controller. However, Hodges discloses

a device control program that is a disk drive control program (column 3, lines 26 – 31).

Therefore, it would have been obvious to one skilled in that art at the time the invention was

made to combine the program updating as taught by McGuire with the installed disk controller

software that is taught by Hodges, because the Hodges teaches that the control software may be

loaded from a memory media (column 3, lines 29 – 31), which indicates that the program is

downloadable from other sources providing the means to update the control program when

desired.

In regard to claim 10, incorporating the rejection of claim 7:

> "...*wherein said computer system comprises a download controller coupled with a device
> controller, and wherein said device controller comprises said control program, and said
> receiving further comprises:*
> *downloading said update control program from said update server by said
> download controller;*"

McGuire discloses an update program loaded from an update server, but neither McGuire

nor Dove discloses that the software program is a device controller. However, Hodges discloses

a device control program that is a disk drive control program (column 3, lines 26 – 31).

Therefore, it would have been obvious to one skilled in that art at the time the invention was

made to combine the program updating as taught by McGuire with the installed disk controller

software that is taught by Hodges, because the Hodges teaches that the control software may be

loaded from a memory media (column 3, lines 29 – 31), which indicates that the program is

downloadable from other sources providing the means to update the control program when

desired.

> "*sending said update control program from said download controller to said
> device controller.*"

McGuire discloses an update program loaded from an update server, but neither McGuire

nor Dove discloses that the software program is a device controller. However, Hodges discloses

a device control program that is a disk drive control program (column 3, lines 26 – 31).

Therefore, it would have been obvious to one skilled in that art at the time the invention was made to combine the program updating as taught by McGuire with the installed disk controller software that is taught by Hodges, because the Hodges teaches that the control software may be loaded from a memory media (column 3, lines 29 – 31), which indicates that the program is downloadable from other sources providing the means to update the control program when desired.

6.   Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over McGuire et al., U.S. Patent 6,493,871 in view of Dove, U.S. Patent 6,385,175 as applied to claim 7 above, and further in view of Itoh et al., U.S. Patent 6,330,611 (hereinafter referred to as Itoh).

In regard to claim 12, incorporating the rejection of claim 7:

> "...*wherein said executing said command comprises establishing a file transfer protocol (ftp) connection with said update server.*"

McGuire discloses an update program loaded from an update server, wherein the client computer executes the command (see Figures 2 and 3; column 7, lines 24 – 56), but neither McGuire nor Dove explicitly discloses establishing a file transfer protocol with the update server. However, Itoh discloses the file transfer protocol (ftp) connection (column 6, lines 41 – 44) in order to update client control software (column 6, lines 49 – 51). Therefore, it would have been obvious to one skilled in the art at the time the invention was made to combine the teaching of McGuire wherein a software update is loaded from a server over the Internet, with the well-known use of FTP as an Internet protocol, because the FTP protocol is specifically designed to download files from, or upload files to remote computer systems.

7.   Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over McGuire et al.,

U.S. Patent 6,493,871 in view of Dove, U.S. Patent 6,385,175 as applied to claim 7 above, and

further in view of Parthasarathy et al., U.S. Patent 6,347,398 (hereinafter referred to as

Parthasarathy).

In regard to claim 13, incorporating the rejection of claim 7:

> *"...returning a status of the updating to said maintenance server."*

McGuire discloses an update program loaded from an update server, wherein the client

computer executes the command (see Figures 2 and 3; column 7, lines 24 – 56), but neither

McGuire nor Dove explicitly discloses returning a status of the updating to the maintenance

server. However, Parthasarathy discloses returning an update status of a download operation

(column 19, lines 53 – 55).   Therefore, it would have been obvious to one skilled in the art at the

time the invention was made to combine the teaching of McGuire wherein a software update is

loaded from a server over the Internet, with returning an upgrade status as taught by

Parthasarathy, because the combination provides a signal for controlling the download as

indicated by Parthasarathy at column 19, line 62.

8.   Claims 14; and 29 – 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over

McGuire et al., U.S. Patent 6,493,871 in view of Murata et al., U.S. Patent 6,505,257 (hereinafter

referred to as Murata).

In regard to claim 14:

> *"A remote console system for maintaining a control program of a disk controller (DKC)*
> *of a plurality of disk controllers, said disk controller comprising a Service Processor*
> *(SVP), said remote console system comprising:*

> *a remote console download controller coupled with said SVP and disposed to:*
>
> *receive a file transfer request from said SVP in response to an instruction to update the control program from a maintenance management server, said file comprising said control program;"*

McGuire discloses a remote console download controller, but does not disclose a service processor that sends a file request to the console. However, Murata discloses a disk controller comprised of a service processor communicating upgrade commands with a maintenance panel (e.g., Figures 1 and 12; column 6, lines 25 – 52) where the disk controller receives the download from the SVP. Therefore, it would have been obvious to one skilled in the art at the time the invention was made to modify the remote console downloading in the teaching of McGuire with the teaching of Murata having a disk controller program upgraded through an SVP from a maintenance panel, because the maintenance panel of Murata would be replaced by the remote console as taught by McGuire providing a remote upgrade capability.

> *send said file transfer request to an update server which is separate from said maintenance management server;*
>
> *receive said file from said update server without passing through said maintenance management server; and*

The download server (see Figure 2 of McGuire) uploads to the client (stored program unit) upon request the appropriate updates (column 7, lines 49 – 67). See Figure 2 wherein the maintenance management server (update setup server) is separate from the update server (download server).

> *send said file to said SVP.*

McGuire discloses a remote console download controller, but does not disclose sending the upgrade file to a service processor. However, Murata discloses a disk controller comprised

of a service processor communicating upgrade commands with a maintenance panel (e.g., Figure

1; column 6, lines 25 – 52) where the disk controller receives the download from the SVP (See

Figure 6, ref. No. 110; Figure 12, ref. No. 215). Therefore, it would have been obvious to one

skilled in the art at the time the invention was made to modify the remote console downloading

in the teaching of McGuire with the teaching of Murata having a disk controller program

upgraded through an SVP from a maintenance panel, because the maintenance panel of Murata

would be replaced by the remote console as taught by McGuire providing a remote upgrade

capability.

In regard to claim 29:

> *A storage device maintenance system for transferring an update to a control program
> used in a device storage system, comprising a plurality of disk controllers, from a control
> program upload server via an Internet connection, comprising:*

>> *a maintenance management server for sending an instruction to update the
>> control program, the maintenance management server being separate from the
>> control program upload server;*

See Figure 2 of McGuire wherein the maintenance management server (update

setup server) is separate from the update server (download server).

>> *a specialized device controller of the plurality of device controllers for receiving
>> the instruction from the maintenance management server through a public
>> telephone network;*

>> *a remote console download controller coupled with the specialized device
>> controller, the specialized disk controller processing the instruction and
>> instructing the remote console download controller to download the update from
>> the control program upload server via the Internet without passing through the*

*maintenance management server, wherein the update is stored in a first program
file coupled with the remote console download controller; and*

*the plurality of disk controllers coupled with the remote console download
controller for receiving the update from the first program file.*

McGuire discloses a server coupled with a client that stores and executes the software

package (the program unit) via a network (e.g., see Figure 2), which may be the Internet (a

public network, column 7, lines 21 – 23). The update server sends a setup program (instructions

to update) to the program unit, which determines which files need to be updated (column 7, lines

228 – 56) directly to the client without passing through the update server (management server)

with authentication (column 8, lines 15 – 19), but does not disclose a disk controller receiving

the information. However, Murata discloses a plurality of specialized disk controllers receiving

update information from a maintenance center (e.g., Figure 1, column 6, lines 25 – 52).

Therefore, it would have been obvious to one skilled in the art at the time the invention was

made to modify the remote console downloading in the teaching of McGuire with the teaching of

Murata having a disk controller program upgraded through an SVP from a maintenance panel,

because the maintenance panel of Murata would be replaced by the remote console as taught by

McGuire providing a remote upgrade capability for the disk controllers over a public network.

In regard to claim 30, incorporating the rejection of claim 29:

*"...wherein a disk controller of the plurality of disk controllers, comprises a DKC
download controller, a program update controller, and a second program file."*

McGuire discloses a server coupled with a client that stores and executes the software

package (the program unit) via a network (e.g., see Figure 2), which may be the Internet (a

public network, column 7, lines 21 – 23). The update server sends a setup program (instructions

to update) to the program unit, which determines which files need to be updated (column 7, lines

228 – 56) with authentication (column 8, lines 15 – 19), but does not disclose a disk controller

receiving the information comprising a DKC download controller, a program update controller,

and a second program file. However, Murata discloses a configuration of a disk controller of a

plurality of disk controllers comprised of a DKC download controller (e.g. Figure 12, ref. No.

20"), a program update controller (e.g. Figure 12, ref. No. 215 service processor) and a second

program file being the control file. Therefore, it would have been obvious to one skilled in the

art at the time the invention was made to modify the remote console downloading in the teaching

of McGuire with the teaching of Murata having a disk controller program upgraded through an

SVP from a maintenance panel, because the maintenance panel of Murata would be replaced by

the remote console as taught by McGuire providing a remote upgrade capability for the disk

controllers over a public network.

In regard to claim 31, incorporating the rejection of claim 30:

> "*...wherein the second program file receives the update from the first program file.*"

McGuire discloses a server coupled with a client that stores and executes the software

package (the program unit) via a network (e.g., see Figure 2), which may be the Internet (a

public network, column 7, lines 21 – 23). The download server sends a first file to update a

second existing file (e.g., Figure 7).

In regard to claim 32, incorporating the rejection of claim 31:

> "*...wherein the update is received by the second program file independent of an associated DKC download controller.*"

McGuire discloses a server coupled with a client that stores and executes the software package
(the program unit) via a network (e.g., see Figure 2), which may be the Internet (a public
network, column 7, lines 21 – 23). The download server sends a first file to update a second
existing file (e.g., Figure 7) in determining which files need to be updated (column 7, lines 24 –
56) with authentication (column 8, lines 15 – 19), but does not disclose a DKC download
controller. However, Murata discloses a configuration of a disk controller of a plurality of disk
controllers comprised of a DKC download controller (e.g. Figure 12, ref. No. 20"), a program
update controller (e.g. Figure 12, ref. No. 215 service processor) and a second program file being
the control file that is updated independent of an associated controller via the SVP. Therefore, it
would have been obvious to one skilled in the art at the time the invention was made to modify
the remote console downloading in the teaching of McGuire with the teaching of Murata having
a disk controller program upgraded through an SVP from a maintenance panel, because the
maintenance panel of Murata would be replaced by the remote console as taught by McGuire
providing a remote upgrade capability for the disk controllers over a public network.

9.   Claims 18 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over
McGuire et al., U.S. Patent 6,493,871 in view of Murata et al., U.S. Patent 6,505,257, and further
in view of Dove, U.S. Patent 6,385,175.

In regard to claim 18:

> *A storage system for maintaining a control program of a disk controller (DKC)
> comprising:*
> > *a first disk controller of a plurality of disk controllers, wherein said first disk
> > controller receives information, comprising authentication data, related to
> > updating said control program from a maintenance center via a public network;*

McGuire discloses a server coupled with a client that stores and executes the software

package (the program unit) via a network (e.g., see Figure 2), which may be the Internet (a

public network, column 7, lines 21 – 23). The update server sends a setup program (instructions

to update) to the program unit, which determines which files need to be updated (column 7, lines

228 – 56) with authentication (column 8, lines 15 – 19), but does not disclose a disk controller

receiving the information. However, Murata discloses disk controllers receiving update

information from a maintenance center (e.g., Figure 1, column 6, lines 25 – 52). Therefore, it

would have been obvious to one skilled in the art at the time the invention was made to modify

the remote console downloading in the teaching of McGuire with the teaching of Murata having

a disk controller program upgraded through an SVP from a maintenance panel, because the

maintenance panel of Murata would be replaced by the remote console as taught by McGuire

providing a remote upgrade capability for the disk controllers over a public network.

> *a download controller responsive to said first device controller and coupled with*
> *said plurality of device controllers, wherein said download controller performs*
> *operations comprising:*
>
> > *sending a request, comprising said authentication data, for an updated*
> > *control program to an update server via an Internet connection;*
> >
> > *distributing said updated control program to said plurality of disk*
> > *controllers.*

McGuire discloses a server coupled with a client that stores and executes the software

package (the program unit) via a network (e.g., see Figure 2), which may be the Internet (a

public network, column 7, lines 21 – 23). The update server sends a setup program (instructions

to update) to the program unit, which determines which files need to be updated (column 7, lines

228 – 56) with authentication (column 8, lines 15 – 19), but does not disclose a disk controller

receiving the information. However, Murata discloses a plurality of disk controllers receiving

update information from a maintenance center (e.g., Figure 1, column 6, lines 25 – 52).

Therefore, it would have been obvious to one skilled in the art at the time the invention was

made to modify the remote console downloading in the teaching of McGuire with the teaching of

Murata having a disk controller program upgraded through an SVP from a maintenance panel,

because the maintenance panel of Murata would be replaced by the remote console as taught by

McGuire providing a remote upgrade capability for the disk controllers over a public network.

> *receiving said updated control program from said update server via said Internet*
> *connection after the authentication data is validated to verify authorization to*
> *receive said updated control program; and*

McGuire discloses the download server (see Figure 2) then uploading to the client (stored

program unit) the appropriate updates (column 7, lines 49 – 67) via Internet (column 7, lines 20 –

30. "Appropriate updates" in the broadest reasonable interpretation in view of specification

means authentication data, but neither McGuire nor Murata specifically discloses verification of

access by the control program unit. However, Dove discloses an agent program (a stored control

program unit) that is submitted to an authorization check (column 3, lines 58 – 61) before being

allowed an update function by the agent. Therefore, it would have been obvious to one skilled in

the art at the time the invention was made to combine the program update as taught by McGuire

with the security/authorization check of an update agent (a control program unit) as taught by

Dove, because the security check of information over the Internet is desirable to ensure that a the

control unit is properly validated

In regard to claim 19, incorporating the rejection of claim 18:

> *"...wherein said public network is a network comprising a router, wherein said router is*
> *coupled with said maintenance center and said computer center."*

Official notice is taken that the Internet, which the McGuire invention implements, inherently contains routers, therefore, it would have been obvious to one skilled in the art at the time the invention was made to couple a router to the computer center and maintenance center to access the Internet.

10.   Claim 22 is rejected under 35 U.S.C. 103(a) as being unpatentable over McGuire et al., U.S. Patent 6,493,871 in view of Dove, U.S. Patent 6,385,175 as applied to claim 20 above, and further in view of Ross et al., U.S. Patent 5,553,139 (hereinafter referred to as Ross).

In regard to claim 22, incorporating the rejection of claim 21:

> "...wherein said request further comprises, a product type, product serial number, and a control program version."

McGuire discloses that version information is considered in the software updating (column 4, lines 21 – 27), but neither McGuire nor Dove discloses a request for product type and product serial number. However, Ross discloses a request for version, product type and product serial number for a software product license enablement (column 7, lines 32 – 46). Therefore, it would have been obvious to one skilled in the art at the time the invention was made to modify the McGuire invention to include product type and product serial number with the version number as taught by Ross when selecting software product upgrades, because this information is useful in verification of the proper products or modules to be updated as taught by Ross (column 7, lines 36 – 38).

Conclusion

11.   Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

12.   Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lawrence Shrader whose telephone number is (703) 305-8046. The examiner can normally be reached on M-F 08:00-16:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kakali Chaki can be reached on (703) 305-9662. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Lawrence Shrader
Examiner
Art Unit 2124

August 25, 2004

KAKALI CHAKI
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100